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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,301	07/03/2003	Hideki Kemmochi	P 0304672 H7966us	3932

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EXAMINER	
AZAD, ABUL K	

ART UNIT	PAPER NUMBER
2626	

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09/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/613,301

Applicant(s)

KEMMOCHI, HIDEKI

Examiner

ABUL K. AZAD

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on June 25, 2007.
2. Claims 1, 2, 4-6 are pending in this action. Claims 1, 2, 4-6 have been amended. Claims 3 have been canceled.
3. The applicant's arguments with respect to claims 1, 2, 4-6 have been fully considered but they are not deemed to be persuasive. For examiner's response to the applicant's arguments or comments, see the detailed discussion in the Response to the Arguments section.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenmochi et al. (EP 1 220 195) in view of Gibson et al. (US 6,336,092).

As per claim 1, Kenmochi teaches, "a singing voice synthesizing apparatus", comprising:

"a singing voice information input device that inputs singing voice information for synthesizing singing voice" (Fig. 2B, element 21);

"a phoneme database that stores voice synthesis unit data" (Fig. 1, element 10);

"a selector that selects the voice synthesis unit data stored in the phoneme database in accordance with the singing voice information" (Fig. 1, element 10);

"a singing voice synthesizer that adjusts a spectrum envelope generated based on the selected voice synthesis unit data" (Paragraph 0074).

Kenmochi does not explicitly teach, "a timbre transformation parameter input device that inputs a timbre transformation parameter for transforming timbre and generates a synthetic singing voice of which character is changed by transforming the voice synthesis unit data in accordance with the timbre transformation parameter". However, Gibson teaches, "a timbre transformation parameter input device that inputs a timbre transformation parameter for transforming timbre and generates a synthetic singing voice of which character is changed by transforming the voice synthesis unit data in accordance with the timbre transformation parameter" (col. 7, line 18 to col. 8, line 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Gibson's teaching of a timbre transformation in the invention of Kenmochi because Gibson teaches his invention provides a higher quality transformation of source individual's voice so as to adapt the characteristics of a target individual's voice (Abstracts).

As per claim 2, Kenmochi teaches, "further comprising a characteristic parameter output device that derives a characteristic parameter from the voice synthesis unit data selected by and outputs the derived characteristic parameter (Fig. 2B).

Kenmochi does not explicitly teach, "selector wherein the singing voice synthesizer corrects the characteristic parameter in accordance with the timbre

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transformation parameter". However, Gibson teaches, "selector wherein the singing voice synthesizer corrects the characteristic parameter in accordance with the timbre transformation parameter" (col. 7, line 18 to col. 8, line 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Gibson's teaching of a timbre transformation in the invention of Kenmochi because Gibson teaches his invention provides a higher quality transformation of source individual's voice so as to adapt the characteristics of a target individual's voice (Abstracts).

As per claim 4, Kenmochi does not explicitly teach, "wherein the timbre transformation parameter input device comprises a timbre transformation parameter adjuster that changes the timbre transformation parameter in a time axis". However, Gibson teaches, "wherein the timbre transformation parameter input device comprises a timbre transformation parameter adjuster that changes the timbre transformation parameter in a time axis (col. 7, line 18 to col. 8, line 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Gibson's teaching of a timbre transformation in the invention of Kenmochi because Gibson teaches his invention provides a higher quality transformation of source individual's voice so as to adapt the characteristics of a target individual's voice (Abstracts).

As per claim 5, Kenmochi teaches, "singing voice synthesizing method", comprising:

"inputting singing voice information for synthesizing a singing voice" (Fig. 2B, element 21);

“storing voice synthesis unit data into a phoneme database in advance and selecting the voice synthesis unit data stored in the phoneme database in accordance with the singing voice information” (Fig. 1, element 10);

Kenmochi does not explicitly teach, “inputting a timbre transformation parameter for transforming a timbre; adjusting a spectrum envelope generated based on the selected voice synthesis unit data in accordance with the timbre transformation parameter; and generating a synthetic singing voice of which character is changed by transforming the voice synthesis unit data in accordance with the timbre transformation parameter”. However, Gibson teaches, “inputting a timbre transformation parameter for transforming a timbre; adjusting a spectrum envelope generated based on the selected voice synthesis unit data in accordance with the timbre transformation parameter; and generating a synthetic singing voice of which character is changed by transforming the voice synthesis unit data in accordance with the timbre transformation parameter” (col. 7, line 18 to col. 8, line 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Gibson’s teaching of a timbre transformation in the invention of Kenmochi because Gibson teaches his invention provides a higher quality transformation of source individual’s voice so as to adapt the characteristics of a target individual’s voice (Abstracts).

Response to Arguments

6. The applicant asserts, "As the Examiner has acknowledged, Kenmochi does not teach that the singing voice synthesizer "adjusts a spectrum envelope generated based on the selected voice synthesis unit data in accordance with the timbre transformation parameter." (February 22 Office Action, pages 3-4)".

The examiner has stated that Kenmochi does not explicitly teach, "adjusts a spectrum envelope generated based on the selected voice synthesis unit data in accordance with the timbre transformation parameter". However the examiner never said that Kenmochi does not teach "adjusts a spectrum envelope generated based on the selected voice synthesis unit data" as the independent claim 1.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(571) 272-7599**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Patric Edouard**, can be reached at **(571) 272-7603**.

Any response to this action should be mailed to:

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450


Or faxed to: **(571) 273-8300**.

Hand-delivered responses should be brought to **401 Dulany Street, Alexandria, VA-22314** (Customer Service Window).

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 17, 2007



Abul K. Azad
Primary Examiner
Art Unit 2626